Abstract ID : 270

Title : Effects of Warm Temperatures and Rain on Ringed Seal Birth Lairs on Baffin Island

Category : Ecology

Student : Not Applicable

Preferred Format : Poster Presentation

Abstract : We recorded an unusually warm period in early April 1979 along the coastline of southeastern Baffin Island. Maximum temperatures remained at or above freezing for almost a week in early April and rain fell on three consecutive days. In contrast, meteorological data collected from three nearby coastal stations between 1950 and 1992 (Brevoort Island, Cape Dyer, and Resolution Island) indicated that the mean minimum and maximum air temperatures for April are normally10-20o C cooler than the averages of what we recorded. Periodic warming to near freezing in late March and early April occurs in this area, probably due to the maritime influence of open water in Davis Strait, but not usually to the extent we observed. Between 1950 and 1992, additional similar rain events were recorded only twice at the coastal weather stations. In late March, we found slumped roofs over some ringed seal (Phoca hispida) birth lairs and some were collapsed, probably because of four days of weather only slightly below freezing and heat generated by seals within the lairs. Following the rain in April, we found subnivean lairs with melted roofs and several cases where snow drifts that had previously contained lairs were completely washed away. Newborn pups were left lying on the bare ice, subject to thermoregulatory stress and vulnerable to significant increased predation by polar bears (Ursus maritimus) and arctic foxes (Alopex lagopus). If the climate continues to warm in the Arctic, as is predicted, it is likely rain will be more widespread during early spring. If that occurs, the protection of subnivean birth lairs may be prematurely removed and expose young ringed seal pups to high levels of predation which may negatively affect populations of ringed seals and the polar bears that depend on them for food.